

# STATEMENT OF BASIS for Burlington County Resource Recovery Complex

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## TITLE V OPERATING PERMIT SIGNIFICANT MODIFICATION

Program Interest (PI): 45949 / Permit Activity Number: BOP100001

### I. FACILITY INFORMATION

Burlington County Resource Recovery Complex is located at 21939 Columbus Road, Mansfield, NJ 08022 Burlington County and consists of municipal solid waste landfill, composting facility, and greenhouse and landfill gas to energy facility. The facility is owned and operated by Burlington County Board of Chosen Freeholders.

The facility is classified as a major facility based on its potential to emit 119.4 tons per year of volatile organic compounds (VOC), 109.4 tons per year of nitrogen oxides (NOx), 384 tons per year of carbon monoxide (CO) and 4,004 tons per year of methane to the atmosphere.

This permit allows individual hazardous air pollutant to be emitted at a rate to not exceed: 0.356 tons per year of Benzene.

### II. AREA ATTAINMENT CLASSIFICATION

The Federal Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are particulate matter, ground-level ozone, carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead. The US Environmental Protection Agency (USEPA) also classifies areas as "attainment" or "nonattainment" for each criteria pollutant, based on the magnitude of an area's problem. Nonattainment classifications are used to specify what air pollution reduction measures an area must adopt, and when the area must reach attainment. Currently, the entire State of New Jersey is designated as nonattainment for the 8-hour ozone NAAQS and portions of the State are designated as nonattainment for the daily SO<sub>2</sub> NAAQS. This facility is located in a nonattainment area of the State in which the ambient air concentration exceeds 8-hour ozone NAAQS and CO<sub>2</sub> NAAQS.

### III. BACKGROUND AND HISTORY

The facility's current operating permit was approved on January 2, 2013. Please refer to the attached explanation sheet for the structure and configuration of conditions of approval, included in the Facility Specific Requirements section of this permit. This modification would allow the following changes to the facility's approved operating permit:

- Installation of a new gas conditioning system (Venture system) as a pre-treatment device in the landfill gas stream prior to the LFG engines for removal of siloxanes.
- The Emission Unit U30 has been renamed as "Five (5) LFG Engines with a Gas Conditioning System and a Temperature Swing Adsorber (TSA) System".
- Installation of a new enclosed flare CD9 (Flare No. 6) and a new emission point (PT46) were added at U30-OS16, and OS26 in the operating permit.
- Update N.J.A.C.7:27-19 requirement in U4-OS1.

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This modification will also change the allowable emission limits as listed in the following table:

Allowable Emission Limits	Facility's Potential Emissions from all Significant Source Operations (tons per year)										
	VOC (total)	NO <sub>x</sub>	CO	SO <sub>2</sub>	TSP (total)	Other (total)	PM <sub>10</sub> (total)	PM <sub>2.5</sub> (total)	Pb	HAPs (total)	CO <sub>2</sub> e (total)
Current Permit	119.4	108.3	382	52.0	35.0	4004	31.2	15.5	N/A	0.356	7,658,075
Proposed Permit	119.4	109.4	384	52.4	35.4	4004	31.7	16.0	N/A	0.356	7,658,075
Change (+ / -)	0	+1.1	+2.0	+0.40	+0.50	0	+0.50	+0.50	N/A	0	0

VOC Volatile Organic Compounds

NO<sub>x</sub> Nitrogen Oxides

CO Carbon Monoxide

SO<sub>2</sub> Sulfur Dioxide

TSP Total Suspended Particulates

Other Any other air contaminant regulated under the Federal Clean Air Act

PM<sub>10</sub>

PM<sub>2.5</sub>

Pb

HAPs

CO<sub>2</sub> e

Particulates under 10 microns

Particulates under 2.5 microns

Lead

Hazardous Air Pollutants

Carbon Dioxide equivalent

### IV. CASE-BY-CASE DETERMINATIONS

No case-by-case determinations were required for this modification.

### V. EMISSION OFFSET REQUIREMENTS

This modification is not subject to Emission Offset requirements.

### VI. BASIS FOR MONITORING AND RECORDKEEPING REQUIREMENTS

The facility's operating permit includes monitoring, recordkeeping and reporting requirements that are sufficient to demonstrate the facility's continued compliance with the applicable requirements consistent with the following:

- Provisions to implement the testing and monitoring requirements of N.J.A.C. 7:27-22.18, the recordkeeping and reporting requirements of N.J.A.C. 7:27-22.19, and all emissions monitoring and analysis procedures or compliance assurance methods required under the applicable requirements, including any procedures and methods promulgated pursuant to 40 CFR 64; and

Where the applicable requirement does not require direct periodic monitoring of emissions, the Department requires periodic monitoring of surrogate parameters sufficient to yield reliable data from the relevant time period that are representative of the facility's compliance with the permit. In this case, the flare shall be designed to operate at no less than the minimum operating temperature of 1400 F. temperature monitoring is required for the flare for purposes of monitoring compliance with the VOC limit, gas flow rates in a continuously basis.

- In situations where the underlying applicable requirement did not specify any periodic testing or monitoring, the following factors were considered in the evaluation and determination of the appropriate methodology for compliance demonstration for each emission unit:
  - Pollutant's potential impact on public health and environment.

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- Emission unit and control device (older, less reliable equipment generally require more monitoring to ensure ongoing compliance).
- Compliance history and margin of compliance.
- Emissions variability and process stability (emissions units with highly variable process rates or materials generally require more monitoring to ensure ongoing compliance)
- Quantity of emissions (emissions units that will have more impact on the environment generally require more monitoring to ensure ongoing compliance).

### VII. APPLICABLE STATE AND FEDERAL RULES

This modification is subject to New Jersey Air Pollution Control Regulations, codified in N.J.A.C. 7:27-1 through 34, as applicable. A complete text of these regulations is available at:

<http://www.nj.gov/dep/aqm/rules27.html>

This modification is also subject to Federal regulations listed below.

NSPS Subpart A:	General Provisions
NSPS Subpart WWW:	Standards of Performance for municipal solid waste landfills
NESHAP Subpart A:	General Provisions
NESHAPS Subpart AAAA:	National emission standards for hazardous air pollutants for source categories

The Greenhouse Gas (GHG) emissions from this facility are 7,658,075 TPY CO<sub>2</sub>e and there is no GHG emission increase. The facility is not subject to PSD regulations codified at 40 CFR 52.21.

### VIII. FACILITY'S COMPLIANCE STATUS

The Responsible Official at the facility has certified that the facility currently meets all applicable requirements of the Federal Clean Air Act and the New Jersey Air Pollution Control Act. Based on this certification, the Department's evaluation of the information included in the facility's application, and a review of the facility's compliance status, the Department has concluded that this air pollution control operating permit should be approved. Prior to the expiration of the Operating Permit's five-year term, the facility will be required to apply for a renewal, at which time the Department will evaluate the facility and issue a public notice with its findings.

### IX. EXEMPT ACTIVITIES

The facility's operating permit does not include exempt activities such as office and interior maintenance activities, maintenance shop activities, food preparation facilities, cafeterias and dining rooms, etc. A complete list of exempt activities, as allowed by the Operating Permit rule, can be found at N.J.A.C. 7:27-22.1.

FACILITY NAME (FACILITY ID NUMBER)

BOP050001

Activity Number  
(assigned by the  
Department)

## New Jersey Department of Environmental Protection Facility Specific Requirements

Emission unit number  
(assigned by the  
facility)

Brief description of emission unit

Emission Unit: U1 25 MM BTU/hour Boiler burning Fuel Oil and Natural Gas  
Operating Scenario: OS Summary OR OSXX Boiler burning Fuel Oil

OS Summary lists all rules and requirements that apply to an emission unit, regardless of operating scenarios. Emission unit may contain one or more pieces of equipment and the corresponding operating scenarios

OSXX denotes the operating scenario number and lists the rules and requirements that apply to a particular scenario. An operating scenario represents various ways (or scenarios) a piece of equipment can operate.

Records to be kept

Submittal  
requirement

Item  
Number

Description of applicable  
requirement

Air contaminants

Monitoring method to  
ensure compliance

Actions to be  
taken by the  
facility

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Conduct a comprehensive stack test at emission point PTXX at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the <u>CO, NOx, TSP and VOC</u> emission limits.[N.J.A.C. 7:27-22.16(e)]	Other: <u>Stack emission testing</u> . Stack test shall be conducted for CO, NOx, TSP, and VOC emissions (add language as needed). Based on any 60 minute period. [N.J.A.C. 7:27-22.16(e)]	Other: <u>Stack test results</u> . [N.J.A.C. 7:27-22.16(e)]	Stack Test - <u>Submit a protocol, conduct stack tests, submit results</u> : As per the approved schedule. <u>Submit a stack test protocol to the Bureau of Technical Services (BTS)</u> at PO Box 437, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. [N.J.A.C. 7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]

Rule citation (subchapter, section, and paragraph) for the applicable requirement

Rule citation for the monitoring requirement

Rule citation for the recordkeeping requirement

Rule citations for the submittal/action requirement